WHAT IS CLAIMED IS:

1. An electro-cauterizing cannula assembly for use with a powered liposuction device having a hand-holdable housing provided with a reciprocation means reciprocatable within said hand-holdable housing and power supply terminals for supplying radio-frequency (RF) power signal to said cannula assembly during liposuction operations, said electro-cauterizing cannula assembly being operably connectable to said hand-holdable housing and comprising:

a hollow inner canula having a distal end and a proximal end and an inner suction aperture about said inner cannula distal end, said inner cannula proximal end further including an outlet port and a continuous passageway which communicates said inner suction aperture with said outlet port;

a hollow outer cannula having a distal end and a proximal end and on outer suction aperture about said outer cannula distal end, said hollow inner cannula being disposed within at least a portion of said hollow outer and inner cannulas while permitting aspiration through said outer and inner suction apertures, along said continuous passageway and out of said outlet port;

said hollow inner cannula being operably associatable with said reciprocation means, and said hollow outer cannula being essentially stationary with respect to said hand-holdable housing, so as to effectuate relative sliding movement between said hollow inner and outer cannulas when said reciprocation means reciprocates, so that the location of said aspiration through said outer and inner suction apertures is periodically displaced; and

electro-cauterizing means associated with said hollow inner and outer cannulas, for conducting radio-frequency power signals along said hollow inner and outer cannulas and effecting coagulation of protein molecules within the tissue being aspirated through said outer and inner suction apertures.

2. The electro-cauterizing cannula assembly of claim 1, wherein said hollow outer cannula further comprises an outer cannula base extending from said outer cannula proximal end and being adapted for releasably connecting with said hand-holdable housing,

wherein said hollow inner cannula is operably associatable with said reciprocation means by way of an actuation means disposed in said hand-holdable housing and reciprocatable by said reciprocation means, and

wherein said hollow inner cannula base further including said outlet port and said continuous passageway, and wherein said hollow outer cannula further comprises an outer cannula base which extends from said inner cannula proximal end and is adapted for releasably connecting with said hand-holdable housing.

9. The electro-cauterizing cannula assembly of claim 2, wherein said hollow outer cannula is electrically non-conductive and includes a cauterizing electrode provided about said hollow outer suction aperture; and

wherein said hollow inner cannula is electrically conductive and the outer cannula base of said hollow inner cannula includes electrical means for conducting said RF power signal from a first one of said RF power supply terminals in said powered liposuction device to said hollow inner cannula.

10. The electro-cauterizing cannula assembly of claim 9, wherein said electrical means comprises a device inserted within the outer cannula base of said hollow outer cannula and having an electrical contact element for conducting said RF power signal from said RF power supply terminals to said inner canula while said hollow inner cannula is being reciprocated within said hollow outer cannula.

11. The electro-cauterizing cannula assembly of claim 9, wherein the outer cannula base of said hollow outer cannula includes an electrical contact element for establishing electrical contact with one said RF power supply terminals with said powered liposuction device.

12. The electro-cauterizing cannula assembly of claim 2, wherein said hollow inner cannula is electrically non-conductive and includes a cauterizing electrode provided about said inner suction aperture and the inner cannula base of said hollow inner cannula includes an electrical connection element for electrically connecting said cauterizing electrode with a first one of said RF power supply terminals within said powered liposuction device; and

said outer cannula is electrically conductive and the outer cannula base portion of said hollow outer cannula includes electrical means for maintaining said hollow outer cannula in electrical contact with a second one of said RF power supply terminals conducting RF power signals to said hollow outer cannula.

13. The electro-cauterizing cannula assembly of claim 12, wherein said electrical means comprises an electrically conductive element embedded within the outer cannula base of said hollow outer cannula.

14. The electro-cauterizing cannula assembly of claim 2, wherein said hollow inner and outer cannulas are both electrically non-conductive;

wherein said hollow outer cannula includes an outer cauterizing electrode provided about said outer suction aperture and first conductive means for conducting RF power signal from the outer cannula base of said hollow outer cannula to said first cauterizing electrode; and

wherein said hollow inner cannula includes an inner cauterizing electrode provided about said inner suction aperture and second conductive means for conducting said RF power signal from said inner cannula base of said hollow inner cannula to said inner cauterizing electrode.

15. The electro-cauterizing cannula assembly of claim 14, wherein the outer canula base of said hollow outer cannula includes a first electrical contact element connected to said first conductive means for contacting a first one of said power supply terminals in said powered liposuction device; and wherein the inner cannula base of said hollow inner cannula includes a second electrical contact element connected to said second conductive means for contacting a second one of said power supply terminals in said powered liposuction device.

16. The electro-cauterizing cannula assembly of claim 15, wherein said first electrical contact element is embedded within the outer cannula base of said hollow outer cannula; and said second electrical contact element is embedded within the inner cannula base of said hollow inner cannula.

17. The electro-cauterizing cannula assembly of claim 2, wherein said outer suction aperture is elongated in the longitudinal direction of said hollow inner cannula.

18. The electro-cauterizing cannula assembly of claim 2, wherein said hand-holdable housing further includes a cannula cavity of cylindrical geometry, and said inner cannula base comprises a first cylindrical structure capable of being slidably received within at least a first portion of said cannula cavity, and wherein a notch means is formed in said first cylindrical structure and is adapted for releasably engaging with said actuation means.

19. The electro-cauterizing cannula assembly of claim 18, wherein said outer cannula base comprises a second cylindrical structure capable of being received within at least a second portion of said cannula cavity, and wherein a flange portion extends from said second cylindrical structure an is adapted for releasably engaging with a matched recess formed in said cannula cavity.

22. The electro-cauterizing cannula assembly of claim 2, which further comprises a cannula keying means for maintaining said hollow inner and outer cannulas in a predetermined axial alignment so that said outer suction aperture is in registration with at least a portion of said inner elongated suction aperture as said hollow inner and outer cannulas are caused to undergo said slidable movement.

23. The electro-cauterizing cannula assembly of claim 2, which comprises first, second and third pairs of said outer and inner suction apertures, each said pair of suction apertures being at least partial registration when said hollow inner cannula is inserted within said hollow outer cannula.

26. The apparatus of claim 25, said hollow outer cannula further comprises an outer cannula base extending from said outer cannula proximal end and being adapted for releasably connecting with said hand-holdable housing,

wherein said hollow inner cannula is operably associated with said reciprocation means by way of an actuation means disposed in said hand-holdable housing and reciprocatable by said reciprocation means, and

wherein said hollow inner cannula base further including said outlet port and said continuous passageway, and wherein said hollow outer cannula further comprises an outer cannula base which extends from said inner cannula proximal end and is adapted for releasably connecting with said hand-holdable housing.

33. The apparatus of claim 26, wherein said hollow outer cannula is electrically non-conductive and includes a cauterizing electrode provided about said hollow outer suction aperture; and

wherein said hollow inner cannula is electrically conductive and the outer cannula base of said hollow inner cannula includes electrical means for conducting said RF power signal from said first one of said RF power supply terminals to said hollow inner cannula.

34. The apparatus of claim 33, wherein said electrical means comprises a device inserted within the outer cannula base of said hollow outer cannula and having an electrical contact element for conducting said RF power signals from said RF power supply terminals to said inner cannula while said hollow inner cannula is being reciprocated within said hollow outer cannula.

35. The apparatus of claim 33, wherein the outer cannula base of said hollow outer canula includes an electrical contact element for establishing electrical contact with one said RF power supply terminals.

36. The apparatus of claim 26, wherein said hollow inner cannula is electrically non-conductive and includes a cauterizing electrode provided about said inner suction aperture and the inner cannula base of said hollow inner cannula includes an electrical connection element of electrically connecting said cauterizing electrode with a first one of said RF power supply terminals; and

said outer cannula is electrically conductive and the outer cannula base portion of said hollow outer cannula includes electrical means for maintaining said hollow outer cannula in

electrical contact with a second one of said RF power supply terminals and conducting RF power signals to said hollow outer cannula.

37. The apparatus of claim 36, wherein said electrical means comprises an electrically conductive element embedded within the outer cannula base of said hollow outer cannula.

38. The apparatus of claim 36, wherein said hollow inner and outer cannulas are both electrically non-conductive;

wherein said hollow outer cannula includes an outer cauterizing electrode provided about said outer suction aperture and first conductive means for conducting said RF power signals from the outer cannula base of said hollow outer cannula to said first cauterizing electrode; and

wherein said hollow inner cannula includes an inner cauterizing electrode provided about said inner suction aperture and second conductive means for conducting said RF power signals from the inner cannula base of said hollow inner cannula to said first cauterizing electrode.

39. The apparatus of claim 38, wherein the outer cannula base of said hollow outer cannula includes a first electrical contact element connected to said first conductive means for contacting a first one of said RF power supply terminals; and wherein the inner cannula base of said hollow inner cannula includes a second electrical contact element connected to said second conductive means for contacting a second one of said RF power supply terminals.

40. The apparatus of claim 39, wherein said first electrical contact element is embedded within the outer cannula base of said hollow outer cannula; and said second electrical contact element is embedded within the inner cannula base of said hollow inner cannula.

41. The apparatus of claim 26 wherein said outer suction aperture is elongated in the longitudinal direction of said hollow inner cannula, and said inner suction aperture is substantially shorter than said outer suction aperture along said longitudinal direction.

42. The apparatus of claim 26, wherein said hand-holdable housing further includes a cannula cavity of cylindrical geometry, and said inner cannula base comprises a first cylindrical structure capable of being slidably received within at least a first portion of said cannula cavity, and wherein a notch means is formed in said first cylindrical structure and is adapted for releasably engaging with said actuation means.

43. The apparatus of claim 42, wherein said outer cannula base comprises a second cylindrical structure capable of being received within at least a second portion of said cannula cavity, and wherein a flange portion extends from said second cylindrical structure and is adapted for releasably engaging with a matched recess formed in said cannula cavity.

46. The apparatus of claim 26, which further comprises a cannula keying means for maintaining said hollow inner and outer cannulas in a predetermined axial alignment so that said outer suction aperture is in registration with at least a potion of said inner elongated suction aperture as said hollow inner and outer cannulas are caused to undergo said slidable movement.

47. The apparatus of claim 26, which comprises first, second and third pairs of said outer and inner suction apertures, each said pair of suction apertures being at least partial registration when said hollow inner cannula is inserted within said hollow outer cannula.

49. The apparatus of claim 25, wherein said RF power signal generator comprises a device, external o said hand-holdable housing, for generating said RF power signals.

50. The apparatus of claim 49, which further comprises a flexible cable for conducting said RF power signals form said external device to said RF power supply terminals in said power hand-holdable housing.

51. the apparatus of claim 51, wherein said control means comprises a manually actuated trigger.

53. A power-assisted liposuction instrument, which comprises:

a cannula assembly; and

cauterizing means disposed along said cannula assembly for cauterizing aspirated tissue during liposuction procedures.

54. The power-assisted liposuction instrument of claim 53, wherein said cauterizing means comprises

means for supplying radio-frequency (RF) power signals to said cannula assembly about locations therealong where aspiration of tissue occurs.

55. The power-assisted liposuction instrument of claim 54, wherein said cannula assembly comprises:

hand-holdable housing;

an outer cannula stationarily mounted relative to said hand-holdable housing, and an inner cannula reciprocatable relative to said outer cannula;

wherein said outer cannula has an outer suction aperture and said inner cannula has an inner suction aperture in registration with said outer suction aperture in registration with said outer suction aperture for aspirating tissue therethrough.

56. The power-assisted liposuction instrument of claim 55, wherein said outer cannula is made from a non-conductive material and an electro-cauterizing electrode element is inserted about said outer suction aperture; and

wherein said inner cannula is made from an electrically conductive material.

57. The power-assisted liposuction instrument of claim 55, wherein said inner and outer cannulas are electrically isolated by way of thin electrically isolating coatings applied to the outer surface of the inner cannulas and/or the interior surface of the outer cannula.

58. The power-assisted liposuction instrument of claim 55, wherein said cauterizing means comprises:

means for producing ultrasonic energy of about 50 KHZ and menas for coupling said ultrasonic energy to said inner cannula in order to effect protein coagulation about said inner and outer suction apertures, to thereby achieve hemostasis during liposuction procedures.

59. The power-assisted liposuction instrument of claim 58, wherein said ultrasonic energy is produced by piezoelectric crystals embedded within the base portion of said inner cannula and is driven by electrical signals having a frequency of about 50 KHZ.

60. The power-assisted liposuction instrument of claim 55, wherein said cauterizing means comprises:

means for producing ultrasonic energy of about 20-25 KHZ and means for coupling said ultrasonic energy to said inner cannula in order to effect liquefaction of tissue about said inner and outer suction apertures, to thereby achieve lipolysis during liposuction procedures.

61. The power-assisted liposuction instrument of claim 60, wherein said ultrasonic energy is produced by piezoelectric crystals embedded within the base portion of said inner cannula and is driven by electrical signals having a frequency of about 20-25 KHZ.